**Taking Parametric Assumptions Seriously:** **Arguments for the Use of Welch’s *F*-test instead of the Classical *F*-test in One-way ANOVA**

Marie Delacre1\*, Christophe Leys1, Youri L. Mora1, and Daniël Lakens2

1Université Libre de Bruxelles, Service of Analysis of the Data (SAD), Bruxelles, Belgium

2Eindhoven University of Technology, Human Technology Interaction Group, Eindhoven, Netherlands

\*Correspondence concerning this article should be addressed to Marie Delacre, Service of analysis of the data, Université Libre de Bruxelles, Bruxelles. Address: Avenue Franklin D. Roosevelt 50; Email: [marie.delacre@ulb.ac.be](mailto:marie.delacre@ulb.ac.be); Telephone number: 02/6503243.

Word Count: 4972

**Funding**

This work was supported by the Netherlands Organization for Scientific Research (NWO) VIDI grant 452-17-013.

**Author Note**

All materials required to reproduce the analyses reported in this article are available at https://osf.io/ru9tz/